Stochastic HV Theories a = result of A, b = result of B

$$p(a,b) = \int p(a,b,\lambda)\,d\lambda$$
$$= \int p(a,b|\lambda)\,\rho(\lambda)\,d\lambda$$
$$= \int p(a|b,\lambda)\,p(b|\lambda)\,\rho(\lambda)\,d\lambda$$
$$= \int p(a|\lambda)\,p(b|\lambda)\,\rho(\lambda)\,d\lambda$$

If Clauser-Horne (1974) wrote:

$p(a,b|\lambda) = p(a|\lambda)\,p(b|\lambda)$ = Factorizability

or $p(a|b,\lambda)$ is independent of b.

$$p(a) = \cancel{\int p(a,b)\,db} = \iint p(a,b|\lambda)\,\rho(\lambda)\,d\lambda\,db$$
$$= \int p(a|\lambda)\,\rho(\lambda)\,d\lambda$$

$$p(b) = \int p(b|\lambda)\,\rho(\lambda)\,d\lambda$$

But even incl. CM. Factorizability. $p(a,b) \neq p(a)\,p(b)$

So Loc $\Rightarrow$ Factorizability $\Rightarrow$ Bell Inequality.

Violation of Bell Inequality $\Rightarrow$ Loc.

CHANGES IN THE SCHEDULE

Overview over the changes:

- 1 Cancellations
- 2 Re-schedulings
- 3 Additional talks
- 4 Changes in Session-Chairmanships

(Changes which take place during the Congress week will be announced on the blackboard at the Information Desk.)

1 Cancellations

1.1 Cancellations in Section 1
Session 3: J. MYHILL
Session 11: A. GIUCULESCU

1.2 Cancellations in Section 2
Session 2: M. NEGRI
Session 5: L. PEÑA
Session 8: J. SAFFE
Session 12: B. ZIL'BER

1.3 Cancellations in Section 3
Session 9: D. SKORDEV as well as M. PARTYKA

1.4 Cancellations in Section 4
Session 2: A. SOCHOR/P. VOPENKA
Session 3: H. HODÈS
Session 5: L. PEÑA

1.5 Cancellations in Section 5
Session 21: M. DOBIĆ
Session 22: M. TABAKOV
Session 23: A. DOBRE
Session 24: D. BUSH
Session 26: C. POPA
Session 27: A. MADARÁSZ

1.6 Cancellations in Section 6
Session 2: P. VELOSO as well as J. RYBOVÁ
Session 4: A. MIROIU
Session 6: C. and M. GEORGESCU
Session 19: H. FRIEDMAN as well as M. IGOV
Session 22: I. TUDOSESCU
Session 25: S. MARCUS
Session 27: T. LAI
Session 31: D. GINEV as well as Z. SVOBODA
Session 34: I. ZAPLETAL

1.7 Cancellations in Section 7
Session 11: B. LOEWER

1.8 Cancellations in Section 8
Session 10: J. PINKAVA
Session 20: S. WEINBERG
Session 24: P. VELOSO
Session 25: D. RADULESCU
Session 28: V. NOVOTNY as well as R. QUERALTO
Session 33: G. GALE

$$\psi = \int e^{i(\underline{K}\cdot\underline{R} - Et)}\, e^{i\underline{q}\cdot\underline{y}}\, f(K,q)\, d^3K d^3q$$

$$\underline{K} = \underline{k}_1 + \underline{k}_2 \qquad \underline{q} = \tfrac{1}{2}(\underline{k}_1 - \underline{k}_2) \qquad \underline{R} = \frac{\underline{r}_1 + \underline{r}_2}{2} \qquad \underline{y} = \underline{r}_1 - \underline{r}_2$$

$$\psi(0) = N[1 - \theta(R - R_0)][1 - \theta(y - r_0)]$$

$$N^2 \int d^3R \int d^3y\, |\psi|^2 = 1$$

$$= (4\pi)^2 N^2 \int_0^{R_0} R^2 dR \int_0^{r_0} y^2 dy = \frac{(4\pi)^2 N^2}{} \frac{R_0^3}{3} \frac{r_0^2}{3} = 1$$

$$N = \frac{3}{4\pi} R_0^{-3/2} r_0^{-3/2}$$

$$\frac{1}{(2\pi)^6} \int d^3R\, e^{iK'\cdot R} \int d^3y\, e^{iq'\cdot y}\, \psi(0)$$

$$= \int d^3K' \int d^3q'\, \delta^3(K - K')\, \delta(q - q')\, f(K,q) = f(K', q')$$

$$= N \int_0^{R_0} R^2 dR \int_{-1}^{1} d\omega\, e^{iK'R\cos\theta} \int_0^{r_0} y^2 dy \int e^{iq'y\cos\theta'}$$

$$= (4\pi)^2 N \int_0^{R_0} dR\, \frac{\sin K'R}{K'} \int_0^{r_0} y\, dy\, \frac{\sin q'y}{q'}$$

$$= N(4\pi)^2 \frac{\partial}{\partial K'} \int_0^{R_0} \cos K'R\, dR \ldots$$

$$\frac{d}{dx}[x\cos x + \cos x] = x\sin x$$

$$= \frac{(1 - \cos K'R_0)}{K' R_0^{3/2}} \frac{(1 - \cos q' r_0)}{q' r_0^{3/2}}$$

$$\int x \sin x\, dx = x\cos x - \sin x$$

$$f(K,q) = \frac{1 - (1 - KR_0)\cos KR_0}{K^2 R_0^{3/2}} \frac{1 - (1 - qr_0)\cos qr_0}{q^2 r_0^{3/2}}$$